



Klamath Network Featured Creature

November 2006

Valley oak (*Quercus lobata*)

FIELD NOTES:

General Description:

No tree may be more emblematic of the sundrenched valleys of interior California than the endemic valley oak (*Quercus lobata*), believed to be the largest oak in North America. Older specimens of valley oak may reach heights of 30 m (100') or more with a majestic, spreading crown half again as wide. In winter they remain intriguing as massive, ghostly skeletons in the winter fogs that characterize their habitat. The 12-15 cm (5-6") thick, checked bark on such giants resembles the knobby hide of an alligator's back. Descriptions of this arresting tree appear in the diaries of many early visitors to interior California.

The deeply lobed leaves vary in size from 6-8 cm (2.5-3") long and 2.5-5 cm (1-2") wide. The upper surface of the leaves is a dark green with a felt-like texture. The undersides are pale green with yellowish veins. Acorns of this species come solitary or in pairs and grow to lengths of up to 7.5 cm (3"). At first they are glossy green, and then turn a chestnut brown before dropping in fall. The craggy branches often bear woody, spherical galls that harbor the larvae of small native wasps.

Reproduction and Growth:

The conical valley oak acorns are produced in mast events every 2-4 years and seedling growth is initially slow. Early seedling mortality is usually high due to drought, herbivory, and competition with non-native grasses in most of its range. The result is that many stands are not self-perpetuating and the valley oak ecosystem is at risk. Once established where moisture and nutrients are adequate, such as floodplains, sapling growth can be quite fast for an oak, with diameters of 1-1.5 m obtained in as little as 150 years.

Habitat:

As its name implies, the valley oak is a tree of valley bottoms and alluvial terraces under 1500m elevation, where flooding is but occasional and deep roots can acquire reliable moisture through the hot summer months. With the Fremont cottonwood (*Populus fremontii*), the valley oak once formed extensive riparian forests in California's Great Central Valley. These structurally diverse forests have been largely cleared to provide farmers access to the deep soils they inhabited, but remaining stands can still be located in scattered locations.



Valley oak in savanna
(Photo Credit: David Muench)

Where to see it in the Klamath Parks:

Valley oaks occur along Clear Creek in Whiskeytown National Recreation Area both above and below the reservoir. Bidwell Park in Chico, California, approximately 50 mile south of Lassen Volcanic NP contains perhaps the best remaining example for valley oak riparian forest in the state. The movie "The Adventures of Robin Hood", starring Errol Flynn, was filmed in Bidwell Park (i.e., Sherwood Forest) in the 1930s.

Distribution:

The species occurs in appropriate habitats throughout central California, from the San Fernando Valley, northward to the head the Sacramento Valley north of Redding.

Interesting Fact to Ponder:

Valley oak acorns were the most important food source for many tribes of Native Americans in interior California. Over 50% of their caloric intake was believed to be satisfied by acorns, particularly during the fall and winter. Because of a high fat content, acorns were a welcome addition to an otherwise low fat diet. Large acorn storage granaries built close to the homes were a notable part of the material culture of the tribes.

Efforts to restore valley oaks are underway in much of interior California, and it is hoped this regal heritage can be retained.

Additional Information:

Readings:

Pavlic et al. 1991. Oaks of California, Cachuma Press.

Web Resources:

http://kaweahoaks.com/html/valley_oaks_new.html

http://bss.sfsu.edu/holzman/courses/Fall02%20projects/valley_oak.html